

REMARKS

Claims 1-18 are pending in the application. Claims 1, 9, 17, and 18 have been amended, leaving claims 1-18 for consideration upon entry of the present Amendment. Support for the amendments can be found in Figures 4 and 6 and the supporting description of those figures in the specification. Applicant respectfully requests reconsideration in view of the Amendment and Remarks set forth herein.

Claims 1, 3-6, 9, 11-14, and 17-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tornqvist (U.S. 5,133,036) in view of Ishii et al. (U.S. 5,321,536) ("Ishii") and Nishimura et al. (U.S. 4,297,004) ("Nishimura"). For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

The Examiner recognizes that Tornqvist does not specifically teach connection of a second electrode with a signal supply such that the second electrode is controlled separately from the first electrode. The Examiner also recognizes that Tornqvist does not teach a multi-layer electrode structure having an electrode resistance smaller than the thin film lead electrodes. The Examiner asserts that Ishii teaches the use of a first electrode and a second electrode in such a way that the second electrode is controllably connected to and separated from the signal line by the photosensitive section. The Examiner asserts that Nishimura teaches the limitation of the multi-layer electrode structure having an electrode resistance smaller than the thin film lead electrodes.

Claims 1, 3-6, 9, 11-14, and 17-18 include the following limitations: "said first electrode is electrically connected to at least one of said thin film transistors and is formed over an insulating layer, which is formed covering said at least one of said thin film transistors; said second electrode is formed in a pattern that is common for a plurality of pixels, above said first electrode; a connection conductor for connecting said second electrode and a signal supply portion, said signal supply portion supplying a signal to said second electrode for controlling said second electrode separately from said first electrode." None of the cited references teach or suggest all of those limitations.

In particular, the claims specifically define that the second electrode is formed in a pattern that is common for a plurality of pixels above the first electrode and that a signal supply portion supplies a signal to the second electrode. In Ishii, the Examiner is using the pixel electrode 6 as the equivalent of the claimed second electrode. When using the pixel electrode 6 as the equivalent of the claimed second electrode, all of the other limitations regarding the second electrode are not met. For instance, the pixel electrode 6 is not common for a plurality of pixels as required by the claim. Instead, the pixel electrode 6 is an electrode for merely one pixel.

Moreover, the Examiner also asserts that lower electrode 4 is equivalent to the claimed first electrode; however, the lower electrode 4 does not connect to the thin film transistor as required by the claim. In addition, because the lower electrode 4 is formed as a common electrode for a plurality of pixel electrodes 6, it is not possible, in principle, to connect the lower electrode 4 to the thin film transistor, which "individually controls" the display electrode to such a "common electrode."

In addition, Nishimura does not remedy the deficiency of Tornqvist and Ishii. The Examiner asserts that Nishimura teaches the limitations regarding the multi-layer electrode structure having an electrode resistance smaller than the thin film lead electrodes. However, Nishimura does not teach that the second electrode is formed in a pattern that is common for a plurality of pixels above the first electrode and that a signal supply portion supplies a signal to the second electrode. Nishimura also does not teach or suggest that the first electrode connects to the thin film transistor.

Claims 1, 3, 4, 5-6, and 17 also include the following limitations: "said connection conductor having a section between said second electrode and said signal supply portion, at least a part of said section being a multi-layer structure formed of a second electrode material used for said second electrode and a conductive material used for said thin film transistors." It is not clear to Applicant how the combination of Tornqvist, Ishii, and Nishimura teach or suggest the quoted limitations.

The Examiner asserts that Nishimura is the reference that discloses the teachings regarding the multi-layer structure. However, the claimed limitations require that the connection conductor have a section between the second electrode and the signal supply portion and that at least a part of that section is the multi-layer section formed of a second electrode material used for the second electrode and a conductive material used for the thin film transistors. While Nishimura may teach about a multi-layer structure, there are no thin film transistors in Nishimura or any discussion of how one skilled in the art would have

incorporated a conductive material used for the thin film transistor into the multi-layer structure. Moreover, there is no teaching of the limitation that at least a part of that section is the multi-layer section formed of a second electrode material used for the second electrode and a conductive material used for the thin film transistors.

Claims 9, 11-14, and 18 include the following limitation: "said connection conductor having a section between said second electrode and said signal supply portion, at least a part of said section being formed of a conductive material used for said thin film transistors." It is not clear to Applicant how the combination of Tornqvist, Ishii, and Nishimura teach or suggest the quoted limitations. The Examiner asserts that Nishimura teaches the multi-layer structure. While Nishimura may teach about a multi-layer structure, there are no thin film transistors in Nishimura or any discussion of how one skilled in the art would have incorporated a conductive material used for the thin film transistor into the multi-layer structure.

Accordingly, the references do not teach or suggest all of the limitations of the claims. For at least the foregoing reasons, Applicant respectfully requests that the rejection be withdrawn.

In addition, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); MPEP § 2143.01. There is no teaching in the cited art to combine the references in an attempt to produce the claimed invention.

The Examiner asserts that one would have been motivated in view of the suggestion in Ishii that the desired connection between the electrode and a signal supply as well as separate control of the electrodes can be achieved by Ishii's electrodes configuration with the signal line. Applicant respectfully traverses. There is nothing in Tornqvist that would motivate or suggest that the connection structure of Ishii would be desirable. Ishii's connection structure is completely unrelated to the structure disclosed in Tornqvist. Thus, one skilled in the art would not have been motivated to combine Tornqvist with Ishii.

Moreover, there is no motivation to combine Tornqvist with Nishimura. The Examiner asserts that it is obvious to adopt the multi-layer lead electrode structure of Nishimura in the display system of Tornqvist. However, because Tornqvist merely describes the second electrode having a multi-layer and Nishimura merely describes the lead electrode

16 and the metal electrode 34, which forms a layered structure together with the lead electrode 16, a combination of the two reference would only provide a structure in which a part of the second electrode may be a multi-layer structure.

In addition, while Nishimura discusses a multi-layer structure, Nishimura does not teach a connection, to each display element, of a thin film transistor for driving a display element. Thus, there is no motivation to combine Nishimura with any of the other references because one skilled in the art would not have looked to the teachings of Nishimura to reach the present invention.

In addition, one skilled in the art would not look to Nishimura because doing so would be fundamentally impossible and there is no technical significance for such configuration. The Nishimura reference is directed to a solution for overcoming the problem of high values of lead electrode resistance, by utilizing a multi-layer structure for the lead electrodes. In a LCD as disclosed in Nishimura, an electrode 12 formed on one substrate and an electrode 20 formed on the other substrate are placed to oppose each other with a liquid crystal layer 26 therebetween. If the Nishimura is to be compared with the present invention, the electrode 12 connected to a lead electrode 16 may correspond to the second electrode in the present invention, the liquid crystal 26 may correspond to the emissive portion in the present invention, and the electrode 20 may correspond to the first electrode in the present invention.

In the present invention, the electrode material of the second electrode and a conductive material for the thin film transistor which is formed below the first electrode which in turn is formed below the second electrode form a connection conductor of a multi-layered structure. If one is to achieve this structure in Nishimura, it is necessary that, in order to reduce the resistance of the electrode 12, the electrode 12 and some metal material that is formed below the liquid crystal therebetween must form a layered structure. This process of reducing the electrical resistance by layering, within a panel enclosing the liquid crystal, the electrode 12 and a metal material layer that is formed on a different substrate than that for the electrode 12, however, is fundamentally impossible and there is no technical significance for such configuration. As such, one skilled in the art would not have combined Nishimura with any other reference to reach the claimed invention.

Further, an Examiner cannot establish obviousness by locating references that describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would have impelled one skilled in the art to do what the patent applicant has done. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. Int. 1993). The

references, when viewed by themselves and not in retrospect, must suggest the invention. *In Re Skoll*, 187 U.S.P.Q. 481 (C.C.P.A. 1975). In this case, it seems that the Examiner has pulled together three unrelated references and pointed to various aspects of those references and asserted that various aspects of those three patents are equivalent to Applicant's claimed invention. There is nothing in any of the references or within the knowledge of one skilled in the art that would have lead a person skilled in the art to have combined the three references to reached the claimed invention.

For at least the foregoing reasons, claims 1, 3-6, 9, and 11-14, and 17-18 are not rendered obvious by the references, individually or in combination thereof. Accordingly, Applicant respectfully requests that the rejection be withdrawn.

Claims 2, 7-8, and 15-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tornqvist in view of Ishiguro et al. (U.S. 6,146,928) ("Ishiguro"). Applicant assumes that the Examiner also means to include the references of Ishii and Nishimura with the rejection, as claims 2 and 7-8 include all of the limitations of claim 1 and claims 15-16 include all of the limitations of claim 9. The Examiner states that Tornqvist does not teach a type of thin film transistors containing a polycrystalline silicon layer, an external signal supply device connected to a light emission panel, and conducting materials of conductors in connection to a gate electrode, drain electrode, and source electrode. The Examiner alleges that Ishiguro remedies such deficiencies of Tornqvist.

As explained above, Tornqvist, Ishii, and Nishimura do not teach or suggest that limitation of claims 1 and 9. Moreover, Ishiguro also does not remedy the deficiencies of Tornqvist, Ishii, and Nishimura. There is nothing in Ishiguro that teaches or suggests "said first electrode is electrically connected to at least one of said thin film transistors and is formed over an insulating layer, which is formed covering said at least one of said thin film transistors; said second electrode is formed in a pattern that is common for a plurality of pixels, above said first electrode; a connection conductor for connecting said second electrode and a signal supply portion, said signal supply portion supplying a signal to said second electrode for controlling said second electrode separately from said first electrode."

For at least the foregoing reasons, claims 2, 7-8, and 15-16 are not rendered obvious by the references, individually or in combination thereof. Accordingly, Applicant respectfully requests that the rejection be withdrawn.

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone

conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicant's attorney hereby authorizes that such fee be charged to Deposit Account No. 06-1130.

Respectfully submitted,

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